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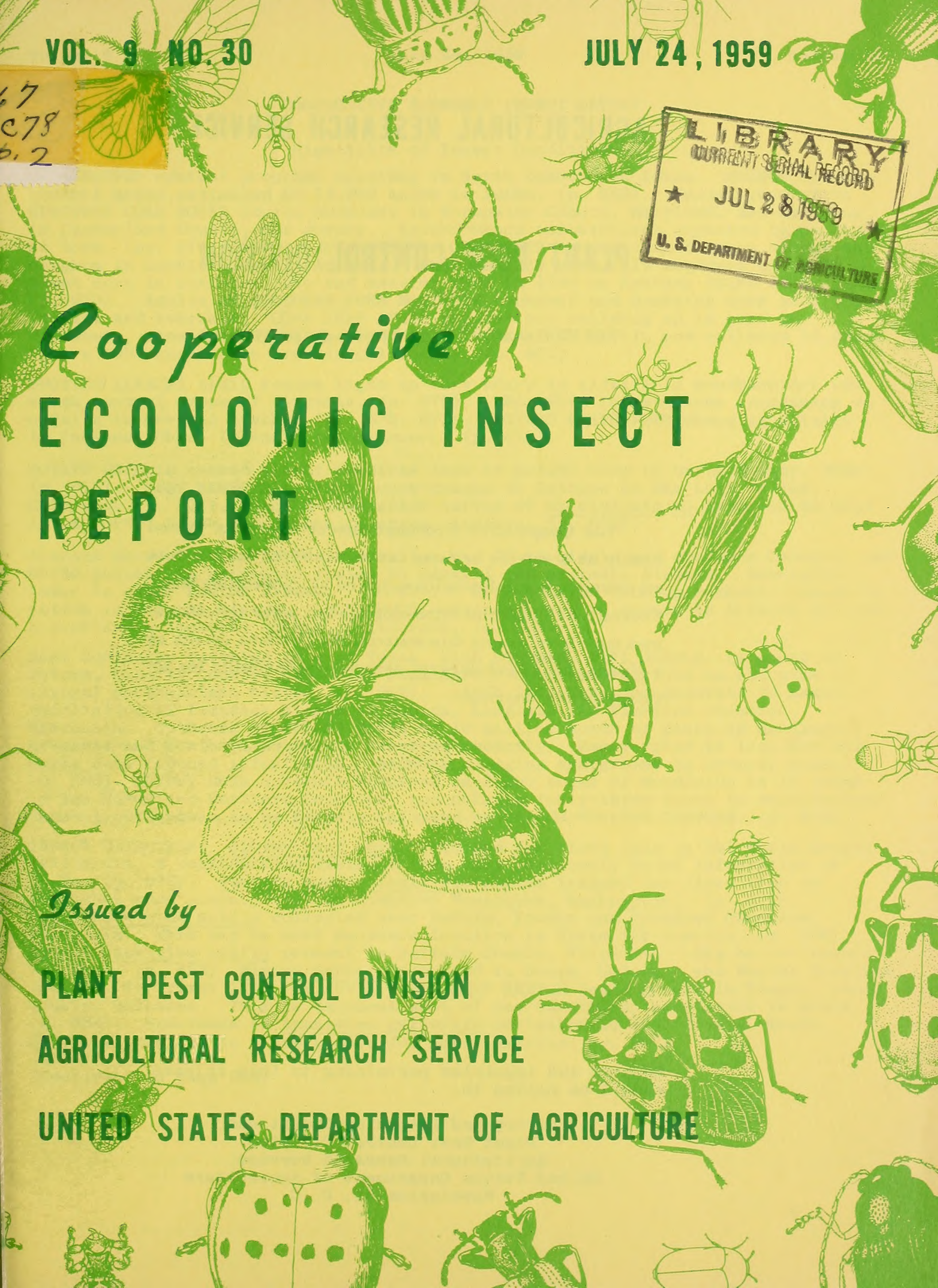

Cooperative
ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
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Volume 9 July 24, 1959 Number 30

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPER control programs underway in North Dakota and Idaho. MORMON CRICKET control areas estimated at 15,000 acres in Idaho. (p. 669). Second-generation EUROPEAN CORN BORER adults abundant in Worcester County, Maryland, and emerging in Cumberland County, New Jersey. Second-brood infestations expected to be light in Iowa. (pp. 670, 688). SOUTHWESTERN CORN BORER caused considerable damage to sorghum in Cochise County, Arizona. CORN EARWORM unusually abundant on early sweet corn in northern Ohio and heavier than in 1958 on Eastern Shore of Virginia. (p. 670). Adults of SOUTHERN CORN ROOTWORM abundant and damaging corn in Illinois, Indiana and Nebraska. CORN LEAF APHID populations building up in corn in Wisconsin, Minnesota, Iowa and Nebraska. RICE WATER WEEVIL now believed to occur over a 500 square mile area in California. (p. 671).

SPOTTED ALFALFA APHID ranges light to very heavy in alfalfa in southwestern and south central areas of Virginia. (p. 672). PEA APHID infestations increasing on alfalfa in several states. (pp. 672, 673). POTATO LEAFHOPPER damaging alfalfa in Indiana, Ohio, Illinois and Missouri. (p. 673).

POTATO PSYLLID caused almost complete loss of potato crop in Davis County, Utah. (p. 676). BEET WEBWORM causing heavy damage to lettuce in San Luis Valley, Colorado. (p. 677). Second-generation larvae of Rachiplusia ou numerous on mint in La Porte, Stark and Jasper Counties, Indiana. (p. 678).

Average percent BOLL WEEVIL infestation was 39 in middle and southern Georgia, and 60-90 percent in untreated fields in central and southern Alabama. Generally lower in other cotton states. (p. 679). SPIDER MITES causing economic damage to cotton in several states. LYGUS BUGS continue heavy in cotton in Arizona and are a problem in Imperial County, California. (p. 680).

Most seriously infested area of Texas, with SOUTHERN PINE BEETLE, is north of Devers, Liberty County. EUROPEAN PINE SAWFLY continues serious on red pine in several northeastern states. (p. 682). LARCH SAWFLY caused moderate to heavy defoliation of tamarack stands in Oneida, Langlade and Florence Counties, Wisconsin. Outbreak of SPIDER MITES on 10 million acres of pines in southern Arkansas and northern Louisiana occurred recently. Heavy rains in late May and early June reduced infestation. BAGWORM damaging evergreens in several states. (p. 683). GYPSY MOTH controls required on 7,000 acres of woodlands in 10 towns in New Haven and Hartford Counties, and oaks in forty-three towns in southeastern Connecticut appear to be heavily infested by ORANGE-STRIPED OAKWORM. (p. 684).

INSECT DETECTION: Clover root borer recorded for first time in Del Norte County, California, a considerable distance from only previously known infestation in State. (p. 673). Western cherry fruit fly adults trapped for first time in Wenatchee area proper, west of downtown Wenatchee, Washington. (p. 675). Introduced pine sawfly collected near DeSoto, Vernon and Crawford Counties, Wisconsin. This may be most southern location in State for species. (p. 682). Swaine jack-pine sawfly present in Buffalo County, Wisconsin. May be new record for area. (p. 683). Mimosa webworm reported in Boone, Delaware and Porter Counties, Indiana, for first time. (p. 684). ELM LEAF BEETLE found on elm in Binger, Caddo County, Oklahoma. This is farthest west of any confirmed infestation in State. (p. 684). Specimens of Apanteles galleriae collected in Polk County, North Carolina, constitute a new record for North America. (p. 687).

(Continued on page 668)

A MUSCID (Musca autumnalis) continues extremely annoying to cattle in Ohio and in Dubois, Blackford and Fayette Counties, Indiana. (p. 686).

One EUROPEAN CHAFER adult trapped at Capon Bridge, Hampshire County, West Virginia. First collection since 1955 at this location. (p. 687).

ADDITIONAL NOTES. (p. 688).

Status of some IMPORTANT INSECTS in the United States. (p. 691).

INSECTS not known to occur in the United States. (p. 693).

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Reports in this issue are for week ending July 17, unless otherwise indicated.

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WEATHER BUREAU 30-DAY OUTLOOK

MID-JULY TO MID-AUGUST 1959

The Weather Bureau's 30-day outlook for the period from mid-July to mid-August calls for temperatures to average above seasonal normals west of the Continental Divide, with greatest departures along the West Coast. Below normal averages are predicted for the rest of the country, except for near normal along the Gulf Coast, in the northern border states, and over the Appalachian area. Rainfall is expected to exceed normal in the southern half of the Great Plains and also along the Atlantic Seaboard. Subnormal amounts are anticipated in the Far West and over the Upper Lakes. In the remainder of the Nation near normal precipitation is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price $4.80 a year, $2.40 a half year.

WEATHER OF THE WEEK ENDING JULY 20

This week brought recurring rain, showers, and thunderstorms to most areas east of the Rockies as warm, moist air covered the central and eastern portions of the Nation. Heaviest weekly totals were reported from Kansas and Missouri southward to Texas, in the Gulf Coastal States, the lower Ohio Valley, and along the Atlantic Seaboard. Temperatures over most of the Great Plains, the Southern States, and the Atlantic coast were below normal as widespread cloudiness and precipitation prevented high afternoon temperature readings. Weekly precipitation totals of 5 to 8 inches were reported in parts of Kansas, 2 to 6 inches in Florida and Georgia, and 2 to over 4 inches were recorded along the coast from the Carolinas to southern New England, with some locally higher amounts. Strong winds, excessive short-period precipitation, hail, and some tornadoes and waterspouts were reported in connection with many of the more severe thunderstorms.

(Weather continued on page 681)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - CALIFORNIA - Averaged 0.64 per square yard at 25 stops, compared with 5.6 per square yard at same stops and time in 1958. The fungus (Entomophthora grylli) has been very effective this season. Conditions have caused an upset in hopper cycles as many second, third and fourth-instar nymphs of Melanoplus devastator are present. (Cal. Coop. Rpt.). UTAH - Grasshoppers serious over 15,000 acres of cropland in area of Box Elder County. Spotted, locally causing moderate damage in Washington and Kane Counties. (Thornley, Knowlton). IDAHO - Hatching well underway and practically complete on Middle and South Forks of the Boise River, with adults of Oedaleonotus enigma and an occasional adult of M. bivittatus present by latter part of June. Populations varied 5-55 per square yard over approximately 100,000 acres. Development in Washington County has been very erratic. In the area on the South Fork of the Payette River and Boise River areas in Boise County, hatch well underway by the latter part of June, with M. bilituratus ranging 15-125 per square yard. Baiting started June 30 and 1,086 acres treated. (Evans). NEW MEXICO - Grasshoppers heavily infesting about 500 acres of range and crop land in Taos County. Moderate infestations on about 2,000 acres of alfalfa in De Baca County. Treating cut fields and fence rows. (N. M. Coop. Rpt.). COLORADO - Grasshopper populations continue to be localized and spotty. An area of Archuleta County has been considered rather critical. Controls carried out by ranchers and growers earlier have been very successful. (Colo. Ins. Sur.). OKLAHOMA - Grasshoppers 1-12 per square yard on 4 rangeland and pasture areas checked in Kiowa and Comanche Counties. Dominant species, M. differentialis. (Hatfield). Counts 4 and 5 per square yard in 2 rangeland areas checked in Osage County. Dominant species, Melanoplus spp., Ageneotettix deorum and Mermiria maculipennis. (Robinson). TEXAS - Adults of several grasshopper species moving from harvested wheat into other crops in Castro and Deaf Smith Counties. Light to moderate damage to sorghum occurring in Sherman County. (Russell, Preston). NEBRASKA - Grasshoppers continue low except in certain area of southeast. Some field margins, pastures and roadsides have over 50 per square yard and some alfalfa fields showing marginal damage. Numbers in alfalfa fields range 0-15 per 10 sweeps, with increasing numbers of tettigoniids also noted. (Webb). SOUTH DAKOTA - Grasshopper counts up to 25 per square yard in alfalfa and wheat fields in Perkins and Corson Counties and up to 25 per square yard in alfalfa in Ziebach and Dewey Counties, with many adults moving into small grain fields. Dominant species, M. bivittatus. (Hantsbarger). Averaged 9 per square yard in alfalfa in north central area and 5 in south central area. (Walstrom). Averaged 8 per square yard in alfalfa in southeast area, with M. femur-rubrum dominant species. (Mast).

NORTH DAKOTA - Emergency cooperative control program initiated on severe grasshopper outbreak in rangeland in parts of Golden Valley County. Dominant species, Aulocara sp. To date, 6,000 acres have been treated. Treatment of an additional 7,000 acres will be completed early in week beginning July 19. Injury in infested area severe. (N. D. Ins. Rpt.). MINNESOTA - Damage by grasshoppers noted in soybeans in Chippewa County. Adjacent alfalfa had 40 per square yard. (Minn. Ins. Rpt.). WISCONSIN - Grasshopper counts in northwestern counties average one per sweep or less. Clark and Wood Counties have higher populations, 12 per sweep, but this is unusual. Adams and Marquette Counties had highest counts, up to 35 per yard. (Wis. Coop. Sur.). INDIANA - Grasshoppers, primarily Melanoplus femur-rubrum, as high as 2 nymphs per sweep at Culver. (Wilson). MARYLAND - Grasshopper nymphs averaged over 3 per sweep on alfalfa in Howard County. (U. Md., Ent. Dept.). FLORIDA - Romalea microptera damage increasing in south Dade County. (Fla. St. Plt. Brd., June Rpt.).

MORMON CRICKET (Anabrus simplex) - IDAHO - Hatching in Bear Valley area of Boise County where a two-year life cycle is anticipated. Baiting accomplished on 4,640 acres. June surveys of infested areas made it necessary to increase estimated control areas to approximately 15,000 acres. (Evans).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEW JERSEY - Second-brood moths apparently emerging. Egg masses 1-3 per 50 sweet corn plants in Cumberland County. (Ins. Dis. Newsl.) MARYLAND - Damage to early-planted sweet corn in central and southern sections moderate to heavy. Generally heavier than in 1958. Second-generation moths abundant in corn fields in Worcester County, although activity slowed somewhat by heavy rains. (U. Md., Ent. Dept.). VIRGINIA - Heavily damaged corn field in Grayson County (Woodside), damaging corn in Loudoun County field (Amos, Brown) and severe in spotted areas in Wythe County corn (Bird). INDIANA - First-brood pupa found at Tippecanoe County. (Deay). ILLINOIS - Pupation 42 percent in central area, 10 days earlier than usual. Pupation 5 percent in northern area, about 2 weeks or more earlier than usual. Extent of second generation not determined, but not expected to be severe on field corn. (Ill. Ins. Rpt.). MINNESOTA - Percentage of plants infested with larvae was less than one in southeast, 15 in south central, 27 in southwest, 6 in west central, and 4 in central areas. Only occasional egg masses being found and very few moths. (Minn. Ins. Rpt.). MISSOURI - High egg mass count in southeast, was 5 per 100 stalks. Egg laying past peak. (Keaster). Pupation 70 percent completed in central area, some emergence noted. In extreme north area, pupation just begun. (Kyd, Thomas, Munson). KANSAS - Most corn fields checked in Republic and Jewell Counties had counts ranging 0-5 larvae per 25 plants, with an average of 1 per 25 plants. Larvae mostly in stalks, few in whorls. (Gates, Simpson). NEBRASKA - Fifty percent of larvae in early corn reached fourth or fifth instar. Damage to corn light most areas of State, with heavy infestations present only in early planted corn in eastern area. (Roselle). SOUTH DAKOTA - Number of shot-holed plants per 100 corn plants inspected by counties was 5 in Brookings, 7 in Moody, 10 in Minnehaha, 3 in Lincoln, 25 in Union, 50 in Clay, 17 in Turner, 15 in McCook, and 10 in Lake. (Mast). NORTH DAKOTA - Light in southeastern counties. Most eggs hatched. Larval development ranged from first to third instar. (N. D. Ins. Rpt.). ARKANSAS - Infestations light. (Ark. Ins. Sur.).

SOUTHWESTERN CORN BORER (Zeadiatrea grandiosella) - ARIZONA - Populations increasing in Cochise County sorghum, considerable damage apparent many fields. Larvae found both in whorls and in base of stalks near soil. (Ariz. Coop. Sur.). ARKANSAS - Moths continue to emerge. Egg deposition heavy on corn in Independence, Izard and Stone Counties. In some cases, 80 percent of stalks have eggs. (Ark. Ins. Rpt.).

CORN EARWORM (Heliothis zea) - MASSACHUSETTS - Eggs found in Plymouth County. (Crop Pest Cont. Mess.). NEW JERSEY - Eggs easily found, one per 2 or 3 corn silks in Gloucester County on July 13. (Ins. Dis. Newsl.). VIRGINIA - Heavier than in 1958 on Eastern Shore. All untreated sweet corn ears infested. (Hofmaster). ALABAMA - Infestations in central area continue to increase in field corn, ranging from 70 to 90 percent. (Grimes). OHIO - Unusually abundant on early market sweet corn in northern area. (C. R. Neiswander). MINNESOTA - Small numbers reported in whorls and tassels of corn in southwest district. (Minn. Ins. Rpt.). NEBRASKA - Small numbers in corn fields checked, some larvae nearing maturity. (Webb). KANSAS - Most fields in Republic and Jewell Counties less than one percent infested. Earworms in tassels and whorls. (Gates, Simpson). TEXAS - Heavy damage occurring in 3 of 10 young sorghum plants in Frio and Zavala Counties. Average 4 young larvae per peanut plant in Frio and Zavala Counties. (Harding). IDAHO - Damaging tassels of early corn in Payette County. Damage ranges from a trace to 3-5 percent in different fields. Pupation beginning. (Scott).

STALK BORER (Papaipema nebris) - NEBRASKA - Infestations increased in southeast in corn, vegetable, and ornamental plants. (Roselle).

CUTWORMS - MINNESOTA - Damaging from less than one to over 8 percent of corn plants in Albert Lea area in association with *Loxostege commixtalis*. Injured plants stunted and wilted. (Minn. Ins. Rpt.). ILLINOIS - Moths of *Agrotis ypsilon* have been exceptionally numerous. (Ill. Ins. Rpt.).

SORGHUM WEBWORM (*Celama sorghiella*) - TEXAS - Light and widespread on sorghum in Brazos River area of Washington, Burleson and Brazos Counties. (Texas Coop. Rpt.).

SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) - INDIANA - Adults destructive, feeding on silks of corn in Hancock County. (Matthew). ILLINOIS - Adults far more abundant than for several years; average 10.5 per 100 sweeps in corn fields in east-southeast and southeast sections. Damage from larvae likely to be more common than in past years. (Ill. Ins. Rpt.). SOUTH DAKOTA - Small numbers found in alfalfa and corn in southeast area. (Mast). NEBRASKA - Adults of *Diabrotica* spp. becoming more numerous on corn, with some feeding damage to leaves becoming evident. *D. undecimpunctata howardi* most prevalent. (Webb).

WESTERN SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata*) - OREGON - Larvae in roots of sweet corn in Polk County plantings. (Larson).

CORN SAP BEETLES (*Carpophilus* spp.) - ILLINOIS - Entering corn attacked by corn earworm in central area and in Cook County; beginning to lay eggs. (Ill. Ins. Rpt.). DELAWARE - *C. lugubris* remains common in European corn borer and corn earworm infested corn throughout State. (Burbutis, Mason).

EUROPEAN EARWIG (*Forficula auricularia*) - IDAHO - Present in large numbers in corn fields in Payette County; infesting tassels. (Scott).

CORN LEAF APHID (*Rhopalosiphum maidis*) - INDIANA - Abundant in tassels and whorls of corn in localized areas of Tippecanoe County. (Parrott). WISCONSIN - Continues to build up; populations reached considerable size in certain locations for time of year. In most corn areas, likelihood of larger populations than those of 1957 is great. (Wis. Coop. Sur.). MINNESOTA - Appearing in southern half of State. (Minn. Ins. Rpt.). MISSOURI - Populations declining in southwest. In north, heavy infestations continue on younger corn and sorghum. (Kyd, Thomas, Munson). NEBRASKA - Up to 40 percent of corn fields infested in southeast. Numbers generally less than 25 to 30 per plant, but buildup continues and some damage is noticeable. (Webb). KANSAS - Light in sorghum fields in Finney and Kearny Counties, 0-85 per plant. (DePew). OKLAHOMA - Common in sorghum checked in central and south central areas. Only light populations noted. (VanCleave, Washum, Pennington). UTAH - Damaging several fields of spring barley in Fillmore-Kanosh area of Millard County. Some fields treated. (Knowlton).

A LEAF MINER - NEBRASKA - Damaging some young corn in areas of State. No sustained injury noted; corn recovering rapidly. (Webb).

RICE WATER WEEVIL (*Lissorhoptrus oryzophilus*) - CALIFORNIA - Intensive survey indicates varying populations occur on rice and grasses in a 500 square mile area involving portions of Butte, Glenn and Yuba Counties. (Cal. Coop. Rpt.).

ARMYWORMS - NORTH DAKOTA - Larvae observed most small grain fields in southeastern area. Numbers generally noneconomic although a few field counts near economic levels of 4 larvae per linear foot of row. (N. D. Ins. Rpt.).

ARMYWORM (*Pseudaletia unipuncta*) - MINNESOTA - Scattered light populations reported in Houston and Steele Counties and in west central district of State. (Minn. Ins. Rpt.). CALIFORNIA - Heavy on ryegrass in Paradise, Butte County, and on rice in area northeast of Marysville, Yuba County. (Cal. Coop. Rpt.).

FALL ARMYWORM (*Laphygma frugiperda*) - LOUISIANA - Averaged 25 per 100 sweeps on Bermuda grass pasture in East Baton Rouge Parish. (Spink). ILLINOIS - Few light infestations developed. (Ill. Ins. Rpt.).

HESSIAN FLY (Phytophaga destructor) - COLORADO - Widely distributed in Sedgwick, Phillips, Yuma and Kit Carson Counties. Damage estimated as much as one percent. (Colo. Ins. Sur.).

ENGLISH GRAIN APHID (Macrosiphum granarium) - WASHINGTON - Less abundant in Columbia Basin compared with 1958. (Landis). IDAHO - Abundant and general on leaves and stems of late-planted spring oats and barley in Franklin County. (Roberts). WYOMING - Counts per 100 sweeps in barley ranged 0-100 in Worland area, 60-80 in Manderson area, 20-400 in Burlington-Otto area, 20-25 in Emblem area and 15-20 in Lovell area. No damage noted. Populations higher during previous 2 weeks, but treatments and hot, dry weather helped reduce infestation. (Wyo. Ins. Sur.).

A CHINCH BUG (Blissus leucopterus insularius) - MISSISSIPPI - St. Augustine grass being heavily damaged in various localities in southern half of State. (Hutchins).

FALSE CHINCH BUGS (Nysius spp.) - CALIFORNIA - Heavy infestation of native vegetation in fields in Kelseyville, Lake County. (Cal. Coop. Rpt.). NEW MEXICO - N. raphanus extremely heavy in alfalfa fields in San Juan County. (N. M. Coop. Rpt.). UTAH - Nysius spp., largely N. ericae, extremely numerous in Vernon-Jericho area of Tooele-Juab Counties and in Orderville-Glendale area of Kane County. (Knowlton).

THRIPS - NORTH DAKOTA - Females of Limothrips denticornis reaching maturity in early planted barley at Northwood and ready to migrate to grasses. Reported numerous in Durum wheat fields near Devils Lake. (N. D. Ins. Rpt.). KANSAS - Undetermined species reported in CEIR 9 (27):598 which were causing yellowing of sorghum plants in small areas of western Kansas have been determined as Anaphothrips zeae and Anaphothrips sp. by K. O'Neill. (Peters). NEBRASKA - Numbers per plant continue low in corn in southeast, but larger percentage of plants becoming infested; up to 60 percent some fields. (Webb). UTAH - Extremely numerous in alfalfa seed fields in several areas of State. (Knowlton).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OREGON - Not found in Umatilla County at present. Apparently winter weather severe enough to be an effective control. (Eppley). UTAH - Found as far north as Millard County. Low numbers present. (Knowlton). ARIZONA - In southeast, populations increased slightly in Cochise County, averaging 1 per trifoliate leaf; remaining very light in Graham and Greenlee Counties. (Ariz. Coop. Sur.). NEW MEXICO - Continues a problem in many fields in southern counties. (N. M. Coop. Rpt.). OKLAHOMA - Populations varied greatly in alfalfa in central and south central areas. Counts ranged from less than 1 per sweep up to an estimated 500 per sweep. Numbers appeared heavier than those a month ago in same areas. (VanCleave, Washum, Pennington). KANSAS - Collected in field at rate of less than 1 per sweep during June in Ellis County. (Harvey). MISSOURI - Counts 3-8 per sweep in southwest. (Kyd, Thomas, Munson). TENNESSEE - Averaged 17 per sweep in alfalfa field in Knox County. (Bennett). VIRGINIA - Range light to very heavy in alfalfa in southwestern and south central areas. Maximum number approximately 120 per sweep. Counts generally higher in old alfalfa than in young alfalfa. Predators and parasites numerous in several fields. (Morris).

PEA APHID (Macrosiphum pisi) - ARIZONA - Medium infestations in Graham County alfalfa; very light or completely absent over rest of State. (Ariz. Coop. Sur.). NEW MEXICO - Moderately heavy in alfalfa fields in San Juan County. (N. M. Coop. Rpt.). WASHINGTON - Moderate to heavy infestation on alfalfa at Othello. Some treatments being made. (Landis). IDAHO - Abundant on alfalfa, with general infestation throughout Franklin County. (Roberts). WYOMING - Average number per 100 sweeps in alfalfa was 2,500 in Worland area, 3,000 in Manderson area and 100-1,000 in Riverton area. Damage one percent in Worland and Manderson areas. (Wyo. Ins. Sur.).

UTAH - Moderately severe some alfalfa fields at Panguitch and in northern Kane County. Predators very numerous generally. (Knowlton). NEBRASKA - Building up in alfalfa over State, several fields with 300-400 per 10 sweeps. Counts averaged 30 per 10 sweeps most fields. (Webb). MINNESOTA - Sharp increase noted in most areas during past 10 days. (Minn. Ins. Rpt.). MISSOURI - Counts 2-20 per sweep in southwest and 6-30 in north. (Kyd, Thomas, Munson). WEST VIRGINIA - Populations increasing rapidly in alfalfa in Monongalia County. (W. Va. Ins. Sur.). DELAWARE - Generally decreased on alfalfa and clover most areas. (Burbutis, Mason).

YELLOW CLOVER APHID (*Therioaphis trifolii*) - ILLINOIS - Extremely abundant in red clover in central and south central areas. Counts averaged 10,930 per 100 sweeps in southeast area. (Ill. Ins. Rpt.).

ALFALFA CATERPILLAR (*Colias philodice eurytheme*) - NEW MEXICO - Averaged about 4 per 100 sweeps in alfalfa fields near Farmington and Bloomfield, San Juan County. (N. M. Coop. Rpt.).

THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) - ARIZONA - Increasing in alfalfa statewide. Average counts range 45-56 per 25 sweeps. (Ariz. Coop. Sur.). TEXAS - Light on peanuts; averaged 3 nymphs and 2 adults per plant in Frio County. (Harding). OKLAHOMA - Populations becoming more common in alfalfa surveyed in central and south central areas. (VanCleave, Washum, Pennington).

POTATO LEAFHOPPER (*Empoasca fabae*) - MARYLAND - Averaged 5-6 per sweep on alfalfa in Howard and Frederick Counties. (U Md., Ent. Dept.). OHIO - Causing moderate damage to second-cutting alfalfa across State. Individual fields severely damaged. Adults averaged 1-3 per sweep in northern counties. (Treece). INDIANA - Causing serious damage in north central area alfalfa. Injury intensified by droughty conditions. (Parrott). ILLINOIS - Nymphs 500-14,000 and adults 100-400 per 100 sweeps in northeast; damage to alfalfa common. (Ill. Ins. Rpt.). MISSOURI - Yellowing of alfalfa continues throughout State. Counts ranged 15-65 per sweep. (Kyd, Thomas, Munson). NEBRASKA - Continues of no importance in alfalfa in southeastern area. (Webb). SOUTH DAKOTA - Averaged 2 per 10 sweeps on alfalfa in Lake and Lincoln Counties and 4 per sweep in Turner County. (Mast).

LEAFHOPPERS - ARIZONA - *Empoasca* spp. averaged 40 and *Aceratagalia curvata* 23 per 25 sweeps in alfalfa in Yuma County. (Ariz. Coop. Sur.).

PLANT BUGS (*Adelphocoris* spp.) - DELAWARE - *A. lineolatus* fairly common on alfalfa in Kent and New Castle Counties. (Burbutis, Mason). INDIANA - *A. lineolatus* and *A. rapidus* very abundant on alfalfa, particularly in Marshall County. Populations primarily second and third-instar nymphs. (Wilson). NEBRASKA - *A. rapidus* and *A. lineolatus* low in southeastern area alfalfa. (Webb). SOUTH DAKOTA - *A. lineolatus* averaged 9 per 10 sweeps in alfalfa in southeastern area. (Mast).

LYGUS BUGS (*Lygus* spp.) - NEW MEXICO - Very numerous in alfalfa fields in San Juan County. Counts often averaged from 8-20 per sweep. (N. M. Coop. Rpt.). ARIZONA - Continuing heavy in alfalfa statewide. (Ariz. Coop. Sur.).

A WEEVIL (*Sitona scissifrons*) - SOUTH DAKOTA - Average per 10 sweeps was 4 in Lincoln County, 5 in Union County, 5 in Turner County, 11 in McCook County and 2 in Lake County. (Mast).

CLOVER SEED WEEVIL (*Miccotrogus picirostris*) - WASHINGTON - Up to 40 adults per 25 sweeps in white clover seed fields near Oakesdale, Whitman County; most bloom about 20 percent brown on June 30. (Johansen).

CLOVER ROOT BORER (*Hylastinus obscurus*) - CALIFORNIA - Light infestation in stems of crimson clover in Smith River area of Del Norte County. This is first record for county and represents a considerable distance from only known infestation where it was discovered in fairgrounds in Humboldt County in 1950. (Cal. Coop. Rpt.).

SPIDER MITES - MARYLAND - Light to moderate on soybeans in Dorchester, Somerset and Worcester Counties. (U. Md., Ent. Dept.). DELAWARE - Spider mites reported on clover and soybeans in CEIR 9 (29):646 have been determined as Tetranychus atlanticus. (Cannon). OREGON - Tetranychus sp. causing a leaf drop in alfalfa just south of Nyssa. (Stephen).

A GRAPE COLASPIS (Colaspis sp.) - ARKANSAS - Adults numerous, 10-15 per square foot in lespedeza fields, and feeding on foliage of soybeans. (Ark. Ins. Rpt.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Light on soybeans at Berlin, Worcester County. (U. Md., Ent. Dept.). DELAWARE - Larvae fairly common in field of soybeans in Sussex County, causing noticeable injury. (Burbutis, Mason).

MARGINED BLISTER BEETLE (Epicauta pestifera) - DELAWARE - Adults prevalent and causing considerable defoliation of soybeans in southeast Kent County. (Burbutis, Mason).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Larvae light to moderate on soybeans in Worcester and Somerset Counties. (U. Md., Ent. Dept.). DELAWARE - Larvae fairly common, averaging 3 per 10 sweeps, in clover and alfalfa in New Castle County and also common on soybeans in Sussex County. (Burbutis,Mason). ARKANSAS - Infestation on soybeans light in northeast area. (Ark. Ins. Rpt.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - Larvae averaged 4 per 10 young peanut plants in Frio County. (Harding).

RED-NECKED PEANUTWORM (Stegasta basqueella) - TEXAS - Very light on peanuts in Frio County. (Harding).

FRUIT INSECTS

ORCHARD MITES - WEST VIRGINIA - Panonychus ulmi and Tetranychus spp. increasing on apple trees in Eastern Panhandle. (W. Va. Ins. Sur.). OHIO - P. ulmi serious in many orchards. (Cutright). INDIANA - P. ulmi and Tetranychus sp. continue tremendous population pressure on apple trees in Orleans area. Few orchards escaped rather severe injury. Spider mites more heavy and damaging on peach trees than for a decade. (Marshall). Heavy buildup of T. telarius in apple trees and generally over peach trees in Vincennes area. (Cleveland). MICHIGAN - P. ulmi increasing at Sodus, Coloma, Paw Paw and Stevensville. T. telarius increasing on currants at Eau Claire. (Hutson). MINNESOTA - P. ulmi populations high in many orchards. (Minn. Ins. Rpt.). MISSOURI - P. ulmi and T. telarius continue troublesome most areas of State. (Wkly. Rpt. Fr. Grs.). NEW MEXICO - Bryobia rubrioculus heavy and has caused considerable damage to foliage in apple orchards in San Juan and Lincoln Counties; however, relatively light at present. (N. M. Coop. Rpt.).

CODLING MOTH (Carpocapsa pomonella) - OHIO - First moths emerged July 10, large numbers present July 16, and still increasing. (Cutright). MINNESOTA - Second generation will begin to enter fruit about first week of August. (Minn. Ins.Rpt.). MISSOURI - New entries noted near Cape Girardeau, July 6. Buildup more than previously expected. (Wkly. Rpt. Fr. Grs.). OKLAHOMA - Counts averaged 44.8 percent "wormy" apples in orchard in Payne County. This is a 100 percent increase over infestation found in same orchard in June. (Bieberdorf). UTAH - Three to 25 percent infestation in apple orchards at Kanab. (Knowlton). CALIFORNIA - Heavy in cherry fruit in Happy Camp, Siskiyou County. (Cal. Coop. Rpt.).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MISSOURI - More troublesome than for past several years. Abundant on apples in most of State. (Wkly. Rpt. Fr. Grs.).

UNSPOTTED TENTIFORM LEAF MINER (*Callisto geminatella*) - NEBRASKA - Infestations increasing in apples in southeastern counties. (Roselle).

APPLE MAGGOT (*Rhagoletis pomonella*) - MASSACHUSETTS - Continues to emerge, becoming more active. (Crop Pest Cont. Mess.). OHIO - First larval injury to fruit noted July 16. (Cutright). MINNESOTA - Adult fly emergence continues, with quite high populations being trapped. (Minn. Ins. Rpt.).

APPLE APHID (*Aphis pomi*) - MICHIGAN - Becoming quite numerous at Sodus, Shelby and Grand Rapids. (Hutson).

WOOLLY APPLE APHID (*Eriosoma lanigerum*) - NEW MEXICO - Light to heavy in apple orchards in San Juan County. (N. M Coop. Rpt.).

PEAR PSYLLA (*Psylla pyricola*) - OREGON - Increasing in Willamette Valley, infestations very severe in poorly cared for orchards. (Every).

EUROPEAN FRUIT LECANIUM (*Lecanium corni*) - MICHIGAN - Eighty-five percent hatched on blueberries and peaches at Spinks Corners, Fennville and South Haven. (Hutson).

GREEN JUNE BEETLE (*Cotinis nitida*) - NEW MEXICO - Damaging peaches in Dona Ana County. (N. M. Coop. Rpt.).

A LEAFHOPPER (*Homalodisca liturata*) - CALIFORNIA - Adults heavy on peach and apricot trees in San Diego, San Diego County. (Cal. Coop. Rpt.).

PEACH TREE BORER (*Sanninoidea exitiosa*) - ALABAMA - Damage prevalent in Chilton County. (Helms).

PEACH TWIG BORER (*Anarsia lineatella*) - CALIFORNIA - Light on peaches in Atwater and heavy in Le Grand, Merced County. (Cal. Coop. Rpt.).

APHIDS (undetermined) - IDAHO - Very abundant on plum trees in Moscow area, causing deformation of young leaves and shoots. (Barr). UTAH - Extremely numerous on black walnut at North Salt Lake and Holden. (Knowlton).

MEALY PLUM APHID (*Hyalopterus arundinis*) - MICHIGAN - Present in large numbers at Coloma. (Hutson). WASHINGTON - Heavy on commercial and ornamental plums in Yakima. (Landis).

SAN JOSE SCALE (*Aspidiotus perniciosus*) - WASHINGTON - Damage severe on prunes in spotted areas. First crawlers found June 19. (Anthon).

BLACK CHERRY APHID (*Myzus cerasi*) - OREGON - Though numerous earlier, is now diminishing rapidly due to heavy effect of parasites and predators. (Stephenson).

WESTERN CHERRY FRUIT FLY (*Rhagoletis cingulata indifferens*) - WASHINGTON - Adults picked up by traps for the first time in Wenatchee area proper, west of downtown Wenatchee, June 20. (Anthon).

TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) - FLORIDA - Heavy on citrus in Lutz area and general in Pasco and Hillsborough Counties. (Fla. St. Plt. Brd., June Summ.).

CITRUS RUST MITE (*Phyllocoptruta oleivora*) - FLORIDA - Heavy on citrus in Lake County and increasing in Pasco County. (Fla. St. Plt. Brd., June Summ.).

COTTONY-CUSHION SCALE (*Icerya purchasi*) - LOUISIANA - Building up on young citrus trees in greater New Orleans area. (Spink).

BARNACLE SCALE (*Ceroplastes cirripediformis*) - LOUISIANA - Building up on young citrus trees in greater New Orleans area. (Spink).

WHITEFLIES - FLORIDA - Heavy in citrus groves and nurseries in Ocala district and in Volusia County. (Fla. St. Plt. Brd., June Summ.).

Citrus Insect Situation, Lake Alfred, Florida, Mid-July: PURPLE SCALE activity has held far below the average of previous years. Some increase expected during next two weeks, but level will remain below average. FLORIDA RED SCALE activity reached summer peak last week at above average level. A downward trend will prevail during August, but infestations will remain high through mid-August. CITRUS RED MITE is on decreasing trend and infestations will be at low level in August and September. CITRUS RUST MITE activity increasing rapidly and will be very high until mid-August. TEXAS CITRUS MITE will generally decrease until September. BLACK SCALE infestations will decline rapidly during August and reach low level in September. (Simanton, Thompson, Johnson; July 15).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Damaging grapes in spotted areas of Wythe County (Bird) and are severe in Marion and in the valley in western half of Smyth County (Eller).

GRAPE BERRY MOTH (Paralobesia viteana) - MISSOURI - Appearing in all vineyards and in all stages. (Wkly. Rpt. Fr. Grs.).

GRAPE MEALYBUG (Pseudococcus maritimus) - MISSOURI - In most vineyards around Rosati, July 14. (Wkly. Rpt. Fr. Grs.).

TRUCK CROP INSECTS

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Very high populations of adults and nymphs being taken in Weld County on lycium. (Colo. Ins. Sur.). WYOMING - Found at the rate of 1 per 100 sweeps in potato fields in Ralston area and 0.5 per 100 sweeps in Cody area. (Wyo. Ins. Sur.). UTAH - Potato crop in Davis County almost complete loss due to heavy infestation. (Thornley).

POTATO LEAFHOPPER (Empoasca fabae) - SOUTH DAKOTA - Averaged 8 per 10 sweeps on potatoes in Clark County. No "hopperburn" evident. (Hantsbarger).

POTATO FLEA BEETLE (Epitrix cucumeris) - MICHIGAN - In potato fields at McBride, counts 750 per 10 sweeps. (Hutson). CONNECTICUT - Summer generation prevalent on potatoes in Connecticut River Valley. (Kring).

GREEN PEACH APHID (Myzus persicae) - CONNECTICUT - Abundant on potato foliage in Connecticut River Valley. (Kring).

Potato Aphids in Maine - Although still very small, aphid populations at Presque Isle continue to increase sharply. Virtually all plants now infested. Overall aphid numbers increased more than 400 percent, with average of 4 aphids on three leaves per plant (top, middle, bottom). Macrosiphum solanifolii predominates, with smaller numbers of Myzus persicae, M. solani and Aphis abbreviata. (Shands).

PEPPER MAGGOT (Zonosemata electa) - NEW JERSEY - Heavy, as many as 14 egg punctures found on single pepper, July 13. (Ins. Dis. Newsl.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - VIRGINIA - Counts on peppers on Eastern Shore revealed 38 percent infestation. (Hofmaster).

LEAF MINERS - MARYLAND - Light in tomato foliage in Somerset and Wicomico Counties. (U. Md., Ent. Dept.). VIRGINIA - Liriomyza sp. nearly defoliated some tomato fields in Northampton County. (Hofmaster).

SPIDER MITES (*Tetranychus* spp.) - OKLAHOMA - Heavy on some tomato plants at Stillwater and at Chickasha. (Stiles, Pennington). NEBRASKA - Populations increased on vegetable crops and ornamentals, with moderate to severe damage in southeast counties. (Roselle). WASHINGTON - First *T. telarius* infestation of year on potatoes at Moses Lake. Damage light. (Landis).

PEA APHID (*Macrosiphum pisi*) - WISCONSIN - Being caught in increasing numbers in traps in Madison area. (Wis. Coop. Sur.). IDAHO - Building up rapidly in peas in Gifford area of Nez Perce County and in some fields in Lewis County. Populations 0-100 per sweep. (Kambitsch, Dailey). Generally low in pea fields throughout Latah County, but building up in some lentil fields. (Manis).

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - NEW MEXICO - Heavy populations skeletonizing bean fields in San Juan County. (N. M. Coop. Rpt.). ALABAMA - Heavy on beans in Lee County. Limited number on field peas in same area. (Guyton).

GARDEN FLEAHOPPER (*Halticus bracteatus*) - WEST VIRGINIA - Heavy on beans in Kanawha County. (W. Va. Ins. Sur.).

BEAN APHID (*Aphis fabae*) - OREGON - Presently no problem, after earlier buildup in Salem area. (Stephenson). WASHINGTON - Quite numerous on garden beans and other plants in Sumner area, some controls applied. (Doucette). IDAHO - Adults becoming abundant in Moscow area. Increasing rapidly in lentil fields throughout Latah County. (Barr, Manis). WISCONSIN - Being caught in increasing numbers in traps in Madison area. (Wis. Coop. Sur.).

SIX-SPOTTED LEAFHOPPER (*Macrosteles fascifrons*) - WISCONSIN - Aster yellows showing up in carrots in southeastern counties. Early appearance indicates possibility of rather high rate of infection by *M. fascifrons*. (Wis. Coop. Sur.). DELAWARE - Building up on carrots in New Castle County. (Burbutis, Mason).

CABBAGE LOOPER (*Trichoplusia ni*) - VIRGINIA - Building up strongly on Eastern Shore. (Hofmaster). DELAWARE - Rather abundant, causing moderate feeding injury in several large tomato plantings in eastern Kent County. Present to fairly common on cabbage, potatoes and cucumbers in New Castle County. (Burbutis, Mason). ALABAMA - Scarce on cabbage for this time of year in Lee County. (Guyton).

IMPORTED CABBAGEWORM (*Pieris rapae*) - DELAWARE - Numerous in large commercial planting of young cabbage in New Castle County, causing moderate to heavy injury. (Burbutis, Mason). ALABAMA - Scarce on cabbage for this time of year in Lee County. (Guyton).

DIAMONDBACK MOTH (*Plutella maculipennis*) - ALABAMA - Scarce on cabbage for this time of year in Lee County. (Guyton).

HARLEQUIN BUG (*Murgantia histrionica*) - NEW MEXICO - Heavy, and damaging cabbage in Valencia and Dona Ana Counties. (N. M. Coop. Rpt.).

STRIPED FLEA BEETLE (*Phyllotreta striolata*) - ALABAMA - Heavy on cabbage and turnips in Lee County. (Guyton).

BEET WEBWORM (*Loxostege sticticalis*) - COLORADO - Heavy damage to lettuce in San Luis Valley. (Colo. Ins. Sur.). WYOMING - Counts 40 per 100 sweeps in southern Worland area and 6 per 100 sweeps in northern Worland area on sugar beets. (Wyo. Ins. Sur.). NORTH DAKOTA - Hatching general in sugar beets through northern Red River Valley. Adults continue numerous in fields and along margins. Severe at many locations. Moths present in southern valley sugar beet area, but no egg masses observed. (N. D. Ins. Rpt., June 27).

BEET LEAFHOPPER (Circulifer tenellus) - COLORADO - Ten to 15 per 10 sweeps in untreated fields of Otero County, with smaller numbers being found in Prowers, Bent, Crowley and Pueblo Counties. (Colo. Ins. Sur.).

ONION THRIPS (Thrips tabaci) - COLORADO - Damaging in onion-producing eastern and western areas of State. Populations have increased. (Colo. Ins. Sur.). IDAHO - At economic levels in many onion fields in Canyon County. (Scott).

BROWN WHEAT MITE (Petrobia latens) - IDAHO - Probably this species, increasing on onions in Canyon County. Many fields treated and more in need of treatment. (Scott).

SQUASH VINE BORER (Melittia cucurbitae) - ALABAMA - Light to moderate infestations of larvae and adults on squash and gourds in Lee and Chilton Counties. (Guyton, Helms).

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - Heavily infested squash near Allandale. (Fla. St. Plt. Brd., June Summ.).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - MARYLAND - Larvae injured cucumber roots extensively in Salisbury area during early June. Determined by W. H. Anderson. (U. Md., Ent. Dept.).

RHUBARB CURCULIO (Lixus concavus) - NORTH CAROLINA - Injuring a commercial rhubarb planting in Lincoln County. (Yoder, Farrier).

APHIDS - OREGON - Heavy enough to require control measures on mint in Hermiston area. (Bierman).

A LOOPER (Rachiplusia ou) - INDIANA - Second-generation larvae numerous on mint in La Porte, Stark and Jasper Counties. (Gould).

GARDEN SYMPHYLID (Scutigerella immaculata) - OREGON - Present on most vegetables in Willamette Valley and in approximately the same numbers as in 1958 at this time. (Morrison).

AN APHID (Myzus ascalonicus) - WASHINGTON - First infestation on strawberries noted April 23. Scattered light infestations in Skagit, Snohomish and Whatcom Counties at present. (Eide).

CYCLAMEN MITE (Steneotarsonemus pallidus) - OREGON - Present on 50 percent of strawberry plants in fields found infested in 1958 in Willamette Valley. (Larson).

STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) - MICHIGAN - Second-brood larvae becoming noticeable in Keeler vicinity. (Hutson). WASHINGTON - Severe on small commercial plantings of strawberries in Pullman area, Whitman County. (Johansen).

TOBACCO INSECTS

FLEA BEETLES (Epitrix spp.) - MARYLAND - Populations of E. hirtipennis tapering off on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.). CONNECTICUT - Summer generation of E. cucumeris prevalent on tobacco in Connecticut River Valley. (Kring).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Light on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

TOBACCO BUDWORMS (Heliothis spp.) - MARYLAND - Light to date on tobacco in St. Marys County. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Light on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Average percent square infestation was 8 in treated fields and 19 in untreated fields. (Cott. Lett., July 14). First-generation weevils freely puncturing squares and young bolls in Florence area. Infestations rather low in treated fields, but greater potential for higher infestations is developing. (Fye et al.). GEORGIA - Percent punctured squares averaged 39 in 42 middle and southern cotton fields and 8 in 21 northern fields. (Stowe, Robertson, Johnson). ALABAMA - In central and southern areas, infestations ranged 0-43 percent in treated fields and 60-90 percent in untreated fields. (Turner, Thompson, Carter, Armisted). In northern area, infestations ranged 0-20 percent. Not a problem in northern area as yet. (Sandy, Canerday). Major emergence of second-generation adults occurred in central area. (Grimes). TENNESSEE - First-generation adults emerging in infested area of west Tennessee. Percent infested squares averaged 10. (Locke). MISSISSIPPI - Infestations unbelievably low in delta counties for time of year. Hot, dry weather and other factors practically eliminated potential weevil threat on many farms. (Merkl et al.). LOUISIANA - Percent infestation averaged 4 in 52 fields, 12 in 165 fields and 42 in 8 fields in Tansas Parish; 10 in 70 fields in Franklin Parish; 5 in 93 fields in Ouachita Parish; 10 in 110 fields in Rapides Parish; and 6 in 116 fields in Morehouse Parish. (Spink). Square infestation averaged 9 percent in 122 Madison Parish fields. (Smith et al.). ARKANSAS - Infestations light. Average square infestation 2.6-11.3 percent. Overwintering adults continue to emerge. First-generation adult emergence light, except in upper Arkansas River Valley and parts of southwestern area. Second-generation adults emerging some fields in southeastern area. (Ark. Ins. Rpt.). OKLAHOMA - Populations vary greatly in cotton fields checked in central and south central areas. Percent infested squares ranged 5-50, but averaged 10 in most fields. (VanCleave, Washum, Pennington). No damage noted in Payne County. (Stiles). TEXAS - Infestations more general in many areas with isolated heavy populations. Migration occurred in eastern half of lower Rio Grande Valley. (Gaines). Percent punctured squares averaged 20.7 in late-treated fields and 45.6 in fields not late treated in McLennan and Falls Counties. Second-generation weevils active. (Parencia et al.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Damage declined in Florence area, but larvae remain a serious threat in untreated fields. (Fye et al.). GEORGIA - Eggs averaged 3 and larvae 2 per 100 terminals in 42 middle and southern cotton fields. In 21 northern cotton fields, eggs averaged 0.2 and larvae 1 per 100 terminals. (Stowe, Robertson, Johnson). ALABAMA - Infestations remain low most areas of State; however, eggs numerous. Of 136 fields checked in 17 counties, 69 infested with average percent infestation 3.34. (Grimes et al.). TENNESSEE - Appears to be main problem in those western area cotton fields not infested with boll weevil. Predators numerous and doing excellent job of control most instances. In some cotton fields in northern half of cotton-growing area, controls would be justified. (Locke). MISSISSIPPI - Moth catches in light traps increased, but not as much as anticipated. Very light egg deposition noted. Eggs and small larvae should appear generally over delta counties during week ending July 23. (Merkl et al.). LOUISIANA - In Tensas Parish, infestations averaged 1 percent in 52 fields and eggs averaged 1 per 100 terminals in 3 fields. Infestations averaged 1 percent in Franklin and Ouachita Parishes and 2 percent in Rapides and Morehouse Parishes. (Spink). Percent square infestation averaged 1 and terminal counts averaged 2.39 eggs and 1.04 larvae per 100 terminals in Madison Parish. (Smith et al.). ARKANSAS - Third-generation moths appearing and egg deposition occurring.

Beneficial insects numerous in untreated fields. Peak of emergence expected during middle to latter part of week of July 20. (Ark. Ins. Rpt.). MISSOURI - Counts in 192 fields very light. Parasites and predators numerous. (Kyd, Thomas, Munson). OKLAHOMA - Counts ranged 1-5 percent damaged squares in approximately one-third of cotton checked in central and south central areas. (VanCleave, Washum, Pennington). TEXAS - Activity increased most areas, with heavy egg deposition still being reported. (Gaines). Considerable increase noted in McLennan and Falls Counties. Infestation averaged 12.2 eggs and 8.2 larvae per 100 terminals. Square injury averaged 3.5 percent and boll injury 2.4 percent. Infestations at injurious levels most succulent fields. Light trap collections heavy. (Parencia et al.). CALIFORNIA - Very active and damaging cotton, requiring control in Imperial Valley, Imperial County. (G. D. Peterson).

SPIDER MITES - SOUTH CAROLINA - Infestations reported several areas, often serious. (Fye et al.). GEORGIA - Light to heavy in southern area cotton fields. Light in northern fields. (Robertson, Johnson). ALABAMA - Light to moderate infestations in Tennessee Valley, northern area. In most instances, infestations confined to edges of fields. (Sandy, Canerday). Limited activity reported in Chambers, Randolph and Geneva Counties. (Armisted, Carter, Barwood). TENNESSEE - Spot infestations spreading in fields in western area. Controls in order most fields. (Locke). MISSISSIPPI - Localized "hot spots" general and light infestations common in delta counties. Potential threat exists if hot, dry weather persists. (Merkl et al.). ARKANSAS - Definitely on increase. Spot treatments effective. (Ark. Ins. Rpt.). MISSOURI - Infesting 482 of 892 fields scouted. Problem no longer confined to margins, but is spread throughout fields. Serious damage is present, with some defoliation. (Kyd, Thomas, Munson).

APHIDS - GEORGIA - Aphis gossypii light to heavy in southern area cotton fields. Light in northern area fields. (Robertson, Johnson). ALABAMA - Heavy infestations of A. gossypii locally in south and central areas. (Armisted, Turner, Carter, Thompson). MISSISSIPPI - Localized "hot spots" general and light aphid infestations common in delta counties. (Merkl et al.). NEW MEXICO - Moderate to heavy infestations of A. medicaginis in several cotton fields near Ft. Sumner, De Baca County. (N. M. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Male collected June 27 south of Buckeye, Maricopa County. In Pima County, one female collected in light trap in thurberia in Rincon Mountains about 15 miles northwest of Pomerene on July 3, and one female collected in light trap in thurberia in Santa Rita Mountains about 10 miles east of Continental on July 10. (PPC). TEXAS - Populations continue light. (Gaines). OKLAHOMA - One larvae found in 5,876 blooms inspected in cotton field in Davidson area. None found by bloom inspection in 7 other fields in Tillman County. (Frazier, Pela, Burke, Carroll).

A TORTRICID (Platynota sp.) - MISSISSIPPI - Damaging cotton near Meridian. Attack mostly on squares. (Hutchins).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Continues to damage cotton in coastal regions, with heavy populations reported in Pecos area. (Gaines). ARIZONA - Medium infestations, averaging 3 larvae per 10 plants, occurring some cotton fields in Kansas Settlement area of Cochise County. Light infestations in some Yuma County fields. (Ariz. Coop. Sur.). CALIFORNIA - Light in cotton in Westmoreland area, Imperial County. (Cal. Coop. Rpt.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Averaged 10-15 per 100 sweeps in cotton in Luna County and 8-10 nymphs and 5-6 adults per 100 sweeps in northern Dona Ana County. (N. M. Coop. Rpt.). ARIZONA - Continuing heavy in cotton, statewide. In Willcox area of Cochise County and in Greenlee County, counts average 15 per 100 sweeps. In Graham County and in Bowie area of Cochise County, counts about 15 per 100 sweeps, but nymphs very numerous in terminals. Counts in Yuma, Pinal and Maricopa Counties average 20-25 per 100 sweeps. (Ariz. Coop. Sur.). CALIFORNIA - Continues a problem in cotton, especially adjacent to alfalfa in Imperial County. (G. D. Peterson).

FLEAHOPPERS - NEW MEXICO - Cotton heavily infested in northern Dona Ana County, averaging 10-16 per 100 sweeps. (N. M. Coop. Rpt.).

STINK BUGS - NEW MEXICO - Mostly Chlorochroa sayi, moderately heavy in many cotton fields in southern counties. Counts 3-10 per 100 sweeps in northern Dona Ana County and 2-14 in Luna County. Most growers beginning to treat. (N. M. Coop. Rpt.).

BEET ARMYWORM (Laphygma exigua) - ARIZONA - Populations in some central area cotton fields continue high. Controls being applied many fields. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Populations increasing in Yuma County cotton. Counts averaged 20 per 100 sweeps many fields. (Ariz. Coop. Sur.). CALIFORNIA - Light in cotton in Bard and northern area of Imperial County. Infestations increasing, requiring some control. (Cal. Coop. Rpt.).

WHITEFLIES - CALIFORNIA - Increasing rapidly on cotton plantings. Some fields showing recent crumple leaf disease. (G. D. Peterson).

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Weather - continued from page 668

Temperatures averaged above normal west of the Rockies, over the northern Great Plains, the upper Great Lakes, and northern New England. Precipitation in these areas was limited to widely scattered showers and thunderstorms, and beneficial amounts were reported only in a few scattered areas of the northern Great Plains, the Great Lakes, and in Arizona. Extremely warm temperatures were again recorded in the Desert Southwest, and extended northward to southern Idaho and interior sections of Washington and Oregon late in the week when numerous readings above 100° were reported. The general high temperatures and lack of moisture have caused severe damage in nonirrigated sections of the Southwest and greatly increased the danger of range and forest fires throughout the Far West, but heavy irrigation has maintained most crops in good condition. (Summary supplied by the U. S. Weather Bureau).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SPRUCE BUDWORM (Choristoneura fumiferana) - MAINE - Effectiveness of 1958 control project well in evidence by lush new growth of balsam fir throughout 302,000-acre area. (Northeast. For. Pest Rpt., July 10).

PINE WEBWORM (Tetralopha robustella) - WISCONSIN - Eggs had hatched and larvae were feeding July 12 in southern section of the State. (Wis. Coop. Sur.). MINNESOTA - Feeding on arborvitae seedlings in the Badoura area. (Minn. Ins. Rpt.).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - LOUISIANA - Continues to threaten logging areas but damage on Kisatchie National Forest has been reduced by a full-time control program. (So. For. Pest Rpt., July 8).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - During June, 73 infested spots were located from aerial surveys, six of which had an estimated 1,000 or more brood trees. Most serious portion of infested area is north of Devers, Liberty County. Many infested spots are also located in Hardin County. Repeated showers have hampered ground checking and control operations. (Texas Coop. Rpt.).

WHITE-PINE WEEVIL (Pissodes strobi) - NEW YORK - Somewhat below normal levels. May be due to low winter temperatures and lack of snow cover. PENNSYLVANIA - Heavy on pine and fir in Butler County in early May. Egg deposition on white pine reported May 15 in Blair County. White pine 10 percent infested and Scotch pine lightly infested by mid-June in Venango County. WEST VIRGINIA - Light on white pine and red spruce in areas where it was formerly heavy. VERMONT - Emergence was early, beginning about April 21. (Northeast. For. Pest Rpt., July 10). VIRGINIA - Damaged pines in a Grayson County plantation. Now in late-pupal stage or newly emerged. (Morris, Simpson). MINNESOTA - Infestation 4 percent in a white pine and jack pine plantation in Clearwater County. Pupation is beginning. (Minn. Ins. Rpt.).

APHIDS - MAINE - Chermes piceae has caused increased gout damage in coastal areas and stem injury is heavy in some inland spots. (Northeast. For. Pest Rpt., July 10). VIRGINIA - Pineus strobi medium and affecting white pines generally over Campbell County. (Ellis). IDAHO - An undetermined species continued extremely numerous on fir and spruce in home plantings and in forested areas of Latah County. More abundant than observed in any recent year. Honeydew extremely abundant and annoying in cultivated plantings. (Manis).

SPITTLEBUGS (Aphrophora spp.) - NEW YORK - A. parallela generally light throughout State on white and Scotch pines; heavy on white pine in Essex and Clinton Counties. DELAWARE - Moderately heavy on Virginia and loblolly pines statewide. MARYLAND - Population light but extensive, with slight damage in late instars on June 23. WEST VIRGINIA - Heavy on Virginia and Scotch pines. (Northeast. For. Pest Rpt., July 10). WISCONSIN - Heavy infestations of A. saratogensis reported in scattered red pine plantations in Florence, Marinette, Oneida, Vilas and Oconto Counties. Aerial treatment of about 1,500 acres to begin July 18. (Wis. Coop. Sur.).

PINE RESIN MIDGES (Retinodiplosis spp.) - CALIFORNIA - Results of heavy R. inopis infestations in 1958 causing browning of some ponderosa pine trees in a local area of Tehama County, 40 miles east of Red Bluff. (T. Nelson). IDAHO - Retinodiplosis sp. has affected about 280 acres of a 20-22-year-old ponderosa pine plantation near the Quartz Creek-Priest River drainage in Kaniksu National Forest. (Tunnock).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - Continued serious on red pine and occasionally on Scotch pine in southern NEW YORK, southern CONNECTICUT, southern NEW JERSEY and northeastern PENNSYLVANIA. (Northeast. For. Pest Rpt., July 10).

INTRODUCED PINE SAWFLY (Diprion similis) - WISCONSIN - Specimens collected near DeSoto, Vernon and Crawford Counties, may be most southern location in State for this species. Adults emerged July 13. The first generation may have been completed in some west central counties. (Wis. Coop. Sur.). MINNESOTA - Light infestations are widely scattered in southern St. Louis and Carlton Counties. (Minn. Ins. Rpt.).

RED-HEADED PINE SAWFLY (*Neodiprion lecontei*) - NEW JERSEY - Generally abundant over the State. (Northeast. For. Pest Rpt., July 10). INDIANA - Reported from Perry County. (Schuder). MINNESOTA - Feeding on jack pine near Deer River and now in second and third instars. (Minn. Ins. Rpt.). WISCONSIN - Populations have been low, generally. However, larvae were in the fourth and fifth instars July 11 and had completely defoliated some small Trempealeau County trees. (Wis. Coop. Sur.). TEXAS - Continued to defoliate young plantation pines in eastern areas. LOUISIANA - Young pines in plantations are still being defoliated. OKLAHOMA - One small infestation reported in southeastern area. (So. For. Pest Rpt., July 8).

RED-PINE SAWFLY (*Neodiprion nanulus*) - NEW YORK - Decreased to very low levels in St. Lawrence County, after heavy infestations in past several years. (Northeast. For. Pest Rpt., July 10).

PINE SAWFLIES (*Neodiprion* spp.) - NEW JERSEY - The *N. pratti paradoxicus* infestation in the southern part of the State tappered off somewhat, but is still evident on pitch and shortleaf pines. DELAWARE - *N. pratti* generally light. MARYLAND - Although total acreage infested by *N. pratti* may be less than in 1958, the pattern remained the same, with scattered blocks of pines severely defoliated and adjacent areas lightly infested. VIRGINIA - Large areas were attacked by *N. pratti*. NORTH CAROLINA - *N. pratti* attacked large areas in the State. (Northeast. For. Pest Rpt., July 10). WISCONSIN - Presence of *N. swainei* in Buffalo County may constitute a new record for that area. Larvae were in first instar on June 23. (Wis. Coop. Sur.). TEXAS - Outbreak of *N. excitans* on 25,000 acres of loblolly pine in southeast part of State was controlled by natural enemies. By early March an estimated 95 percent of the population had been eliminated. (So. For. Pest Rpt., July 8).

LARCH SAWFLY (*Pristiphora erichsonii*) - WISCONSIN - Caused moderate to heavy defoliation of natural larch (tamarack) stands in Oneida, Langlade and Florence Counties. In west central section, brown tops of trees are appearing and defoliation was appearing July 11 in many infested stands in northwestern counties. (Wis. Coop. Sur.). MINNESOTA - Infestation is widely distributed again this year. (Minn. Ins. Rpt.).

SPIDER MITES - An outbreak of *Oligonychus milleri* occurred recently on 10,000,000 acres of shortleaf and loblolly pine in southern ARKANSAS and northern LOUISIANA in a population estimated to average one million individuals on each of many hundreds of thousands of trees. Heavy rains in late May and early June reduced the infestation. An abundance of new growth points to good recovery. (So. For. Pest Rpt., July 8). NEW JERSEY - *Oligonychus ununguis* present on hemlock and spruce in some abundance. (Ins. Dis. Newsl.). VIRGINIA - Unidentified species damaged cedar trees in a lawn planting in Northumberland County, killing 2; damaged arborvitae and hemlock in a Fairfax County planting; and about killed a Norway spruce on a lawn in King George County. (Morris et al.). NORTH DAKOTA - High populations of unspecified species observed on juniper and ponderosa pine at several locations in the Bismarck area. (N. D. Ins. Rpt.).

BAGWORM (*Thyridopteryx ephemeraeformis*) - MARYLAND - General and causing injury to arborvitae, cedar, spruce and other ornamentals in all sections of the State. (U. Md., Ent. Dept.). VIRGINIA - Damaging host plants in an area of Nelson County and also in Middlesex and Campbell Counties. (Morris et al.). TENNESSEE - Heavy on evergreens in Knox County. (Bennett). LOUISIANA - Heavy on cedars in Franklin and West Carroll Parishes. (Spink). OKLAHOMA - Damaging evergreens throughout Blaine County (Nelson) and causing extensive damage throughout eastern half of State to a wide variety of hosts, especially evergreens. Most larvae are almost full grown. (Howell, Flora, VanCleave).

FALL WEBWORM (*Hyphantria cunea*) - GEORGIA - Light to moderate infestations in pecan and hickory trees throughout southern part of the State. (Johnson).

MIMOSA WEBWORM (Homadaula albizziae) - MARYLAND - General on mimosa and honeylocust in central and southern sections. (U. Md., Ent. Dept.). VIRGINIA - Heavy on mimosa in many parts of the State. (Morris). WEST VIRGINIA - Moderate on mimosa in Kanawha County. (W. Va. Ins. Sur.). INDIANA - Quite heavy on honeylocust throughout southern half of State. Infestation apparently moving northward in State. Reported from Boone, Delaware and Porter Counties for the first time. (Schuder). ALABAMA - Causing extensive defoliation of mimosa trees in Chilton County. (Helms).

GYPSY MOTH (Porthetria dispar) - CONNECTICUT - About 7,000 acres of woodlands in 10 towns in New Haven and Hartford Counties were treated to prevent serious defoliation. Some 670 acres were defoliated more than 50 percent, with most damage in towns that applied no treatment. In 16 towns, 5,400 acres were defoliated less than 50 percent, mostly east and west of the area heavily infested in 1958. (Cooper).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - CONNECTICUT - Some adults have emerged and deposited eggs at South Windsor and Glastonbury; hatching has begun. Some pupae still in ground. (Hitchcock, July 15). Pupae passed winter in large numbers in southeastern part of State and adults have emerged and are laying eggs. Parts of 43 towns were heavily infested in 1958, when 40,000 acres of oak woodlands were defoliated. These same towns appear to be heavily infested this year. (Cooper, Hitchcock, July 17).

SOLITARY OAK LEAF MINER (Cameraria hamadryadella) - CONNECTICUT - Generally abundant on white oak foliage, especially in New Haven County. (Johnson).

BIRCH SKELETONIZER (Buccalatrix canadensisella) - CONNECTICUT - Black birch in extreme western part of the State are very heavily infested and trees are extremely browned. (Schread).

CHAIN-SPOTTED GEOMETER (Cingilia catenaria) - RHODE ISLAND - Nearly mature larvae abundant on several plant species in Jamestown and Matunuck areas. (Kerr, Hansen).

ELM LEAF BEETLE (Galerucella xanthomelaena) - WEST VIRGINIA - Infestations on elm light and scattered. (W. Va. Ins. Sur.). OKLAHOMA - Medium infestation present on an elm tree in Binger, Caddo County. This is the farthest west of any confirmed infestation in the State. (VanCleave, Washum, Pennington). Populations light to medium in a few isolated elms in Pauls Valley (Perry, McLamore) and populations continued to cause extensive damage to elms in Tulsa (Stiles). IDAHO - General infestation present in Jerome County. Larvae abundant and causing heavy damage to elm trees. (Cross).

ELM CALLIGRAPHA (Calligrapha scalaris) - OKLAHOMA - Approximately 33 percent of foliage destroyed on 20 American elms checked in Watonga, Blaine County. (VanCleave, Washum). Defoliating elms in El Reno, Canadian County, with damage to most trees light. (Pennington). Light defoliation occurred to some elms in Ravia, with 100 percent defoliation on a few trees. (Vinson).

IMPORTED WILLOW LEAF BEETLE (Plagiodera virsicolora) - RHODE ISLAND - Adults abundant on willow in South Kingstown. (Hansen).

A LEAF BEETLE (Anomoea laticlavia) - KANSAS - Feeding on and killing terminal buds of locusts in Montgomery, Franklin and Ellis Counties. (Thompson).

A MAY BEETLE (Phyllophaga bruneri) - FLORIDA - Caused considerable damage to various trees in north central Dade County. (Fla. St. Plt. Brd., June Summ.).

LOCUST LEAF MINER (Chalepus dorsalis) - VIRGINIA - Causing characteristic browning in many groves of black locust in Augusta County. (Woodside).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - WEST VIRGINIA - Light on oak in Kanawha County. (W. Va. Ins. Sur.).

NORWAY-MAPLE APHID (Periphyllus lyropictus) - IDAHO - Extremely abundant on maple trees in Moscow area. Honeydew production heavy. (Manis).

POPULAR-PETIOLE GALL APHID (Pemphigus populi-transversus) - SOUTH DAKOTA - Galls present on poplar trees in most areas in the eastern section of the State. (Mast).

SYCAMORE LACE BUG (Corythucha ciliata) - DELAWARE - All stages very heavy on London planetrees in Sussex County. (Burbutis, Mason).

WALKINGSTICK (Diapheromera femorata) - WISCONSIN - Outbreak on eastern side of Menominee Indian Reservation is causing considerable defoliation in about 3,000 acres of oak. (Wis. Coop. Sur.). MINNESOTA - Now in third and fourth instars. Populations are scattered and light in Cass and Hubbard Counties in Chippewa Forest north of Bemidji. (Minn. Ins. Rpt.).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Medium on roses, flowers and shrubs in areas of Wythe County (Bird) and causing considerable concern in Campbell County, primarily on ornamentals (Ellis). MARYLAND - Heavy on roses and other ornamentals in most sections. Populations declining. (U. Md., Ent. Dept.).

A JAPANESE WEEVIL (Pseudocneorhinus bifasciatus) - MARYLAND - Adults abundant on azaleas in a local area of Wicomico County. (U. Md., Ent. Dept.). DELAWARE - Adults fairly common on shrubs in New Castle County, causing moderate feeding injury. (Kelsey).

LEAF MINERS (Gracilaria spp.) - RHODE ISLAND - Infestations of nearly mature larvae of G. azaleella are local in South Kingstown (Hansen, Kerr) and those of G. syringella on lilac are local in Kingston (Hansen).

CALIFORNIA TORTOISE-SHELL (Nymphalis californica) - CALIFORNIA - Probably this species, causing severe defoliation of ceanothus brush in Davis Creek area of Modoc County. Brush fields virtually black with larvae. Due to lack of rain much of this brush may not recover. (Cal. Coop. Rpt.).

COTTONY-CUSHION SCALE (Icerya purchasi) - CALIFORNIA - Heavy on deodar cedar in Chico, Butte County. (Cal. Coop. Rpt.). ALABAMA - Light on ornamentals in Chilton County. (Helms).

AZALEA BARK SCALE (Eriococcus azaleae) - WEST VIRGINIA - Causing noticeable damage to azaleas in Lewis and Kanawha Counties. (W. Va. Ins. Sur.).

HARLEQUIN BUG (Murgantia histrionica) - KANSAS - Large numbers feeding on lilac in Finney County. There has been no appreciable damage. (DePew).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - WISCONSIN - Activity has increased sharply indicating the beginning of a peak to be reached the week of July 13. Many are now emerging from the large marsh areas near Madison. Aedes vexans, A. dorslais, Mansonia perturbans and Culex pipiens are species causing most annoyance. High counts can be expected to increase and continue during following weeks. (Wis. Coop. Sur.). NORTH CAROLINA - Limited biting by A. taeniorhynchus occurred in coastal counties. A. sollicitans adults prevalent in Carteret, Onslow and Hyde Counties during week ending July 10. (Ashton). DELAWARE - Third-brood larvae of A. sollicitans present in marshes. (Darsie).

MOSQUITOES (undetermined) - CALIFORNIA - Populations have increased with many reports of annoyance to home owners. Highest populations occurred in central and northern areas of the State. (Pub. Hlth. Vec. Cont.). UTAH - Continued troublesome in Helper-Wellington area of Carbon County, in Garden City-Lake Town area near Bear Lake and in canyons south of Woodruff in Rich County. Annoyance also common about communities in Cache County. (Knowlton).

HORN FLY (Siphona irritans) - SOUTH CAROLINA - Populations somewhat low but controls are still needed. (Nettles et al.). LOUISIANA - Extremely heavy on a cattle herd in Vermilion Parish. (Spink). NEBRASKA - Counts averaged 50 per animal on a few cattle herds checked in southeastern area of State. (Webb). OKLAHOMA - Averaged approximately 100 per animal on untreated dairy animals and 300 per head on range cattle checked in Payne County area. (Howell). Averaged 400 per animal on untreated dairy animals checked in Tulsa area. (Taylor).

A MUSCID (Musca autumnalis) - OHIO - Continues to be extremely annoying to cattle throughout most of the State. (Neiswander). INDIANA - Averaged about 60 per head on beef cattle pastured in Dubois County. Also abundant in Blackford County, with counts as high as 80 per head. (Dobson). Reported abundant on cattle in Fayette County. (Matthew).

A SARCOPHAGID (Wohlfahrtia sp.) - WISCONSIN - Previously reported infestations have resulted in numerous deaths among mink kits in at least a few fur farms. (Wis. Coop. Sur.).

SECONDARY SCREW-WORM (Callitroga macellaria) - NORTH CAROLINA - Infestations were much worse in 1959 than in past years in lambs in Davie County, April 9. Det. C. W. Sabrosky. (Cutts).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Averaged less than 5 per head on cattle in a few herds checked in southeastern area. (Webb). OKLAHOMA - Averaged 6 per head on untreated dairy animals and less than one per head on range cattle checked in Payne County area (Howell) and 5 per animal on untreated dairy animals in Tulsa area (Taylor).

TABANIDS - NORTH CAROLINA - Chrysops spp. biting people in coastal counties during week of July 10. (Ashton). LOUISIANA - Tabanus spp. averaged 6 per 15-minute trapping period in Calcasieu, St. Landry, Caddo and Tensas Parishes. (Spink). INDIANA - Tabanus spp. abundant and annoying cattle in southern counties. (Dobson). NEBRASKA - Chrysops spp. fairly numerous in some southeastern areas, with some herds checked having counts of 3 per animal. Tabanus spp. averaged less than one per animal in same areas. (Webb). OKLAHOMA - Tabanus atratus and T. lineola averaged less than one per animal on range cattle in the Payne County area. (Howell). IDAHO - Chrysops spp. abundant in Butte, Custer and Bingham Counties. (Bishop). UTAH - Tabanus spp. annoying from below Panguitch Lake to Cedar Breaks. (Knowlton).

TICKS (Dermacentor spp.) - CALIFORNIA - D. occidentalis reported biting people in the Ukiah area of Mendocino County. This species was plentiful earlier in the year in many areas of the State. (Cal. Coop. Rpt.). OKLAHOMA - D. variabilis populations continued high throughout the central area of the State. (Howell).

STORED-PRODUCT INSECTS

VETCH BRUCHID (Bruchus brachialis) - ALABAMA - Infestations in stored vetch seed very heavy in Lee County. It was estimated that 80 percent of the seed had been damaged. (Guyton).

BENEFICIAL INSECTS

LADY BEETLES - GEORGIA - Exceptionally high populations of Coleomegilla maculata and Hippodamia convergens are present in some cotton fields. (Robertson). LOUISIANA - Several species are very numerous in untreated cotton fields in Tensas Parish. (Spink). OKLAHOMA - H. convergens counts were generally light (0.1-0.3 per sweep) in alfalfa fields checked in central and south central areas, but averaged 4 per sweep in an alfalfa field infested with aphids in the Ardmore area. Counts in other areas of the State were variable on several other crops. (VanCleave et al.). NEBRASKA - Counts of undetermined species in alfalfa gradually increasing, with 1-7 per 10 sweeps common. (Webb). ILLINOIS - In the southeast, unspecified species averaged 33 adults and 52 larvae per 100 sweeps. (Ill. Ins. Rpt.). SOUTH DAKOTA - Adults and nymphs of Hippodamia spp. average less than one per sweep in alfalfa in the southeast area. (Mast). UTAH - Undetermined species, in combination with several other beneficial species, are holding aphid populations at a low level in most areas of Millard, Iron, Washington and Kane Counties. (Knowlton). IDAHO - Adults and larvae of several species are generally less abundant than usual. However, larval populations are increasing in association with aphid infestations on conifers in Latah County. (Barr, Manis).

NABIDS (Nabis spp.) - ILLINOIS - Ranged 10-400 and averaged 97 per 100 sweeps in the southeastern part of the State. (Ill. Ins. Rpt.). SOUTH DAKOTA - Average 4 per 10 sweeps in southeast area alfalfa. (Mast). NEBRASKA - Ranged 0-5 per 10 sweeps in alfalfa fields in southeast area. (Webb). OKLAHOMA - Very light (0-0.1 per sweep) in most alfalfa fields checked in central and south central areas. Averaged up to one per sweep in a few isolated fields. (VanCleave, Washum, Pennington).

FLOWER BUGS (Orius spp.) - NEBRASKA - Continued to average 15-20 per 10 sweeps in alfalfa. Some feeding on corn leaf aphid noted. (Webb). OKLAHOMA - Heavy in silks and tassels of corn plants checked in Payne County. (Walton, Arbuthnot).

BIG-EYED BUGS (Geocoris spp.) - GEORGIA - G. punctipes abundant in some untreated cotton fields. (Robertson). DELAWARE - Large numbers of Geocoris sp. present in clover and in some alfalfa fields throughout the State. (Burbutis, Mason).

LACEWINGS (Chrysopa spp.) - ILLINOIS - Adults averaged 14 per 100 sweeps and larvae 17 per 100 sweeps in southeastern section of the State. (Ill. Ins. Rpt.). SOUTH DAKOTA - Adults and larvae average less than 2 per 10 sweeps in alfalfa in southeastern area. (Mast). IDAHO - Adults appearing in Moscow area and becoming very abundant. Apparently associated with heavy aphid populations on shade trees and ornamental conifer plantings. (Barr, Manis). OKLAHOMA - In alfalfa fields checked, counts averaged 0.1-0.4 per sweep in central and south central areas, one per sweep in one field in Canadian County and 1.5 per sweep in one field in the Wade area. (VanCleave et al.).

A ROOT BORER (Agrilus hyperici) - IDAHO - Adults beginning to appear at release sites in goatweed stands north of Coeur d'Alene. (Barr).

PARASITES - CONNECTICUT - Trichogramma minutum active on eggs of Anisota senatoria in some areas. (Hitchcock, Schread). GEORGIA - Cardiochiles nigriceps abundant in some untreated cotton fields. (Robertson). NORTH CAROLINA - Apanteles galleriae causing marked reduction in the population of a wax moth in a Polk County bee yard, September 24, 1958. These are the first specimens collected in North America. Det. C. F. W. Muesebeck. (Stephen).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - As of July 15, 1959, new infestations have been reported from Mattoon, ILLINOIS; Montezuma, Seymour and Crawfordsville, INDIANA; Lambertsville, Temperance and Erie, MICHIGAN; several localities in the regulated and nonregulated areas in OHIO; and in Vanceburg, South Portsmouth, Ashland and Harlan, KENTUCKY. (PPC, Cent. Reg.).

ASIATIC GARDEN BEETLE (Autoserica castanea) - RHODE ISLAND - Flights to lights in Narragansett and Kingston first noted July 13. (Boaro, Hansen).

EUROPEAN CHAFER (Amphimallon majalis) - WEST VIRGINIA - One specimen trapped at Capon Bridge, Hampshire County. (W. Va. Ins. Sur.).

SPRINGTAILS - MICHIGAN - Infestations common in straw covering new lawns at Lansing, Detroit, Jackson and Grand Rapids. (Hutson).

ADDITIONAL NOTES

NEVADA - SPOTTED ALFALFA APHID averaged 1 per 5 sweeps in hay fields in Orovada and Paradise Valley areas and 4-5 per sweep in some alfalfa-seed fields in Orovada area, Humboldt County. Trace numbers found in Beowawe area of Eureka County and also in 2 fields in Lander County south of Beowawe. PEA APHID averaged 20-40 per sweep in Paradise Valley, averaged as high as 300-400 per sweep some fields in Orovada and averaged about 100-200 per sweep in Kings River Valley, Humboldt County. Average in lightly infested fields was 50-100 per sweep and in heavily infested fields over 1,000 per sweep in fields in Beowawe area of Eureka County. In some fields, plants were being severely damaged or killed. LYGUS BUGS averaged less than 1 per sweep in most alfalfa-seed fields in Humboldt County. Heaviest infestation encountered averaged 4-6 per sweep. Medium infestation of CLOVER APHID, 60-250 per 10 heads, in red clover in Kings River Valley of Humboldt County. Second-generation ELM LEAF BEETLE adults emerging in Reno-Sparks area of Washoe County. LADY BEETLES generally heavy in alfalfa checked in Humboldt, Eureka and Lander Counties. In majority of alfalfa fields, beetles effective in maintaining aphid populations below economic levels. In several alfalfa-seed fields in western Humboldt County, larvae of SYRPHID FLIES averaged 4-10 per sweep. (Bechtel, Day, Menke).

IOWA - First-brood EUROPEAN CORN BORER survey made in northern, central and southern thirds of State. Percent of corn plants infested averaged 25 in eastern half of northern third and 36 in western half of northern third; 47 percent in central third; and 14 in southern third. Number of borers per 100 plants averaged 5 in eastern half of northern third and 136 in western half of northern third; 44 in central third; and 7.6 in southern third. State averages were 31 percent of plants infested and 41 larvae per 100 plants. In general, borers little ahead of 1958. It appears that second-brood infestations will be light. Chemical controls may be justified in some fields. CORN LEAF APHID is present in all corn tassels. RED-LEGGED and DIFFERENTIAL GRASSHOPPERS ranged 3-12 per square yard in fencerows and roadsides in northern areas. Damage showing in adjacent soybean fields. POTATO LEAFHOPPERS averaged 5 per linear foot in soybeans in northern area. Some plants show curled leaves. SQUASH VINE BORER moths flying in all areas of State. CORN EARWORM is very abundant on early sweet corn. EUROPEAN RED MITE counts averaged 12 eggs and 5 adults per leaf in orchards. CODLING MOTH injury is light in southeastern area. BROWN DOG TICK is abundant on dogs most areas of State. FLEAS are appearing in large numbers in basements. (Iowa Ins. Inf.).

NEW YORK - EUROPEAN RED MITE building up rapidly in Niagara County and are past peak and declining in Orleans County where they were heavier than usual on pear trees this year. TWO-SPOTTED SPIDER MITE building up rapidly in Niagara and Orleans Counties. CODLING MOTH began to increase sharply in Niagara County July 14, indicating second-brood activity. ORIENTAL FRUIT MOTH dropped to a very low level in Niagara County after July 13, and has now practically ceased. They are increasing in Orleans County with increased egg laying. PEAR PSYLLA starting to build up in widely scattered areas of Orleans County and APPLE MAGGOT adults are numerous. APHIDS very heavy on potatoes in Suffolk County with the main species being *Myzus persicae*. EUROPEAN CORN BORER injury prevalent throughout Niagara County. One to 6 percent of corn ears were injured or marked in Ulster County. LEAFHOPPERS numerous on many bean fields in Livingston County. JAPANESE BEETLE adults first reported June 29 in central Suffolk County. SOLITARY OAK LEAF MINER causing extensive damage to native swamp and white oaks in Suffolk County but not affecting adjacent cultivated scarlet or pin oaks. *Oligonychus bicolor* damage becoming extensive on northern red oak and American beech in upstate areas. *Eotetranychus multidigituli* damage severe on honeylocust in western areas. HOUSE FLIES have been a real nuisance in the Nesconset area of Suffolk County. (N. Y. Wkly. Rpt.).

LIGHT TRAP COLLECTIONS

	Pseud.	Agrot.	Laphyg.	Perid.	Protoparce		Heliothis	
	unip.	yps.	frug.	marg.	quinq.	sexta	zea	vires.
ARIZONA								
Mesa 7/8-14				8			195	
ARKANSAS								
Fayetteville 7/9-15	10	11					54	
Hope 7/9-15	8	4		1			3	
Kelso 7/9-15	1							
*Morrilton 7/9-15	4	6	18				4	
GEORGIA (County)								
Clarke 7/1-16	14					89		
ILLINOIS								
Urbana 7/10-16	121	202		95				
INDIANA (Counties)								
Lawrence 7/7,9-14	25			1				
Tippecanoe 7/8-15	299	82		54				
KANSAS								
Garden City 7/9,11-14	44	34		26	8		36	
Hays 7/11,14	16	8		6			15	
Manhattan 7/11-17	16	22		7		1	7	
Wathena 7/7-15	18	21		13	9	4	5	
LOUISIANA								
Baton Rouge 7/10-16	6	2	146	1			8	1
Curtis 7/13	3	4			1	4	29	
Franklin 7/13,15	2	1	54				7	
MARYLAND								
Fairland 7/8-12	2	3		3	1			
Upper Marlboro 7/6-13		2		6	2	9		
MISSISSIPPI								
*Stoneville 7/10-16	26	81	5	12		14	73	2
MISSOURI								
Columbia 7/14-17	6	11	19	1			2	
Sikeston 7/11-17	29	20		5			19	
NEBRASKA								
Concord 6/30-7/6	235	22		53			30	
Lincoln 7/3-10	781	188		251			131	
Scotts Bluff 7/3-9	86	11		31	2			
NORTH CAROLINA								
Clayton 7/17					2			
OREGON								
Salem 7/8-17		4					2	
SOUTH CAROLINA								
Charleston 7/14-20	7		50			3	3	
Clemson 7/11-17	12	2		5	8	7	5	
SOUTH DAKOTA								
Brookings 7/16	28	2						

(Continued on page 690)

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*Two traps - Morrilton; 3 traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq.	sexta	Heliothis zea	vires.
TENNESSEE (County)								
Blount 7/7-13	20	2		3		4	2	
TEXAS								
Brownsville 7/3-10		32	384		7	1	476	1
Waco 7/17	27			24			2158	24
WISCONSIN								
Antigo 7/10-12	15			14				
*Arlington 7/7-13	669	80		98				
Beaver Dam 7/7-13	727							
Fox Lake 7/7-13	470							
Janesville 7/8-13	1036							
Johnsburg 7/11-13	39	3						
La Crosse 7/7-14	293	19		30			2	
Middleton 7/7-13	292	12		29				
Platteville 7/6-13	1896	57		143				
Ripon 7/7-13	191							
River Falls 7/8-13	44			3				
Rosendale 7/7-13	404							
Stevens Point 7/7-13	79	7						
*Theresa 7/7-13	352							
Waterford 7/7-13	230							

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*Two traps - Arlington; 3 traps - Theresa

STATUS OF SOME IMPORTANT INSECTS IN THE UNITED STATES

MIMOSA WEBWORM (*Homadaula albizziae* Clarke)

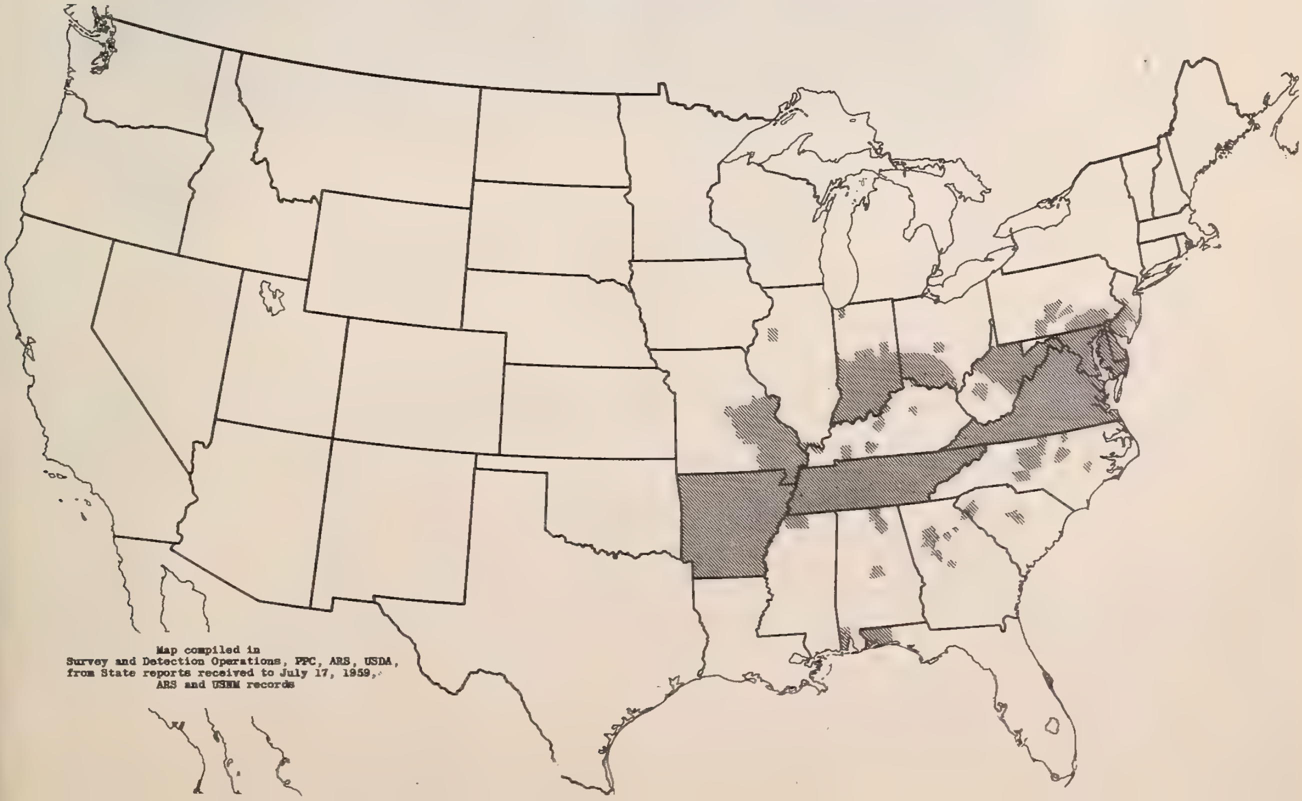
Economic Importance: This species causes serious damage to foliage and flowers of ornamental mimosa (*Albizzia julibrissin*) in several States east of the Mississippi River. The origin of the pest is unknown, but it is generally considered to be foreign, possibly belonging to the Indo-Australian region. It was discovered for the first time in 1940 at Washington, D. C., and was described in 1943 from material collected at that location. Characteristic larval damage to mimosa and honeylocust is as follows: Tissues from one side of the foliage or seed pods eaten away, the epidermal cells on the opposite side being left intact. Affected leaflets turn a dull gray on the mimosa, an intense brown on honeylocust. Damage in many instances can be quite severe.

Distribution: Eastern United States (see map) and possibly the Indo-Australian region.

Hosts: Ornamental mimosa (*Albizzia julibrissin*) and honeylocust.

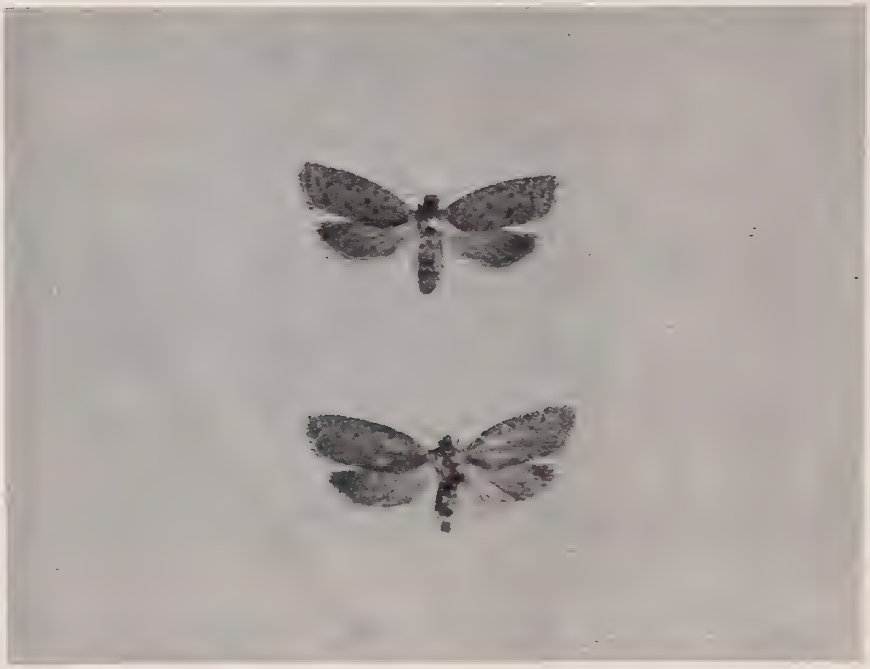
Life History and Habits: Adults from overwintering pupae emerge in early June in the Washington, D. C., area. Larvae of the first generation reach adult stage the third week of July, requiring about 6 weeks to complete their life-cycle. Emergence continues until early August. The second or midsummer generation, requires only 3 to 4 weeks. Mature larvae descend to the ground to pupate about August 15, adults emerge the latter part of August. Eggs are deposited in late August and early September. Though many larvae of the third generation are full-grown by October 1, others live until early November, when they are killed by cold weather. The flowering mimosas are preferred during oviposition to nonflowering ones and sunny portions of crowns are preferred over shady parts. Foliage is the principal food.

DISTRIBUTION OF MIMOSA WEBWORM *(HOMADAULA ALBIZZIAE)*



Map compiled in
Survey and Detection Operations, PPC, ARS, USDA,
from State reports received to July 17, 1959,
ARS and USNM records

Description: The egg is minute, oval and pearl-colored when first laid, later becoming a flesh-pink as the larva develops inside. Mature larva is 14 - 16 mm. long, head and body vary in color from pale-gray to blackish-brown, with five white longitudinal stripes on the body. Sometimes the dark-brown color of the larva is diffused with rose or pink and occasionally is broken with white patches, giving a mottled effect. The pupa is yellowish-brown, slightly less than one-fourth inch long and covered with whitish silken cocoon. The wings of the adult are mouse-gray with a silver luster. The forewings are stippled with conspicuous black spots. Wing expanse 13 - 17 mm. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum).



Adults of Mimosa Webworm

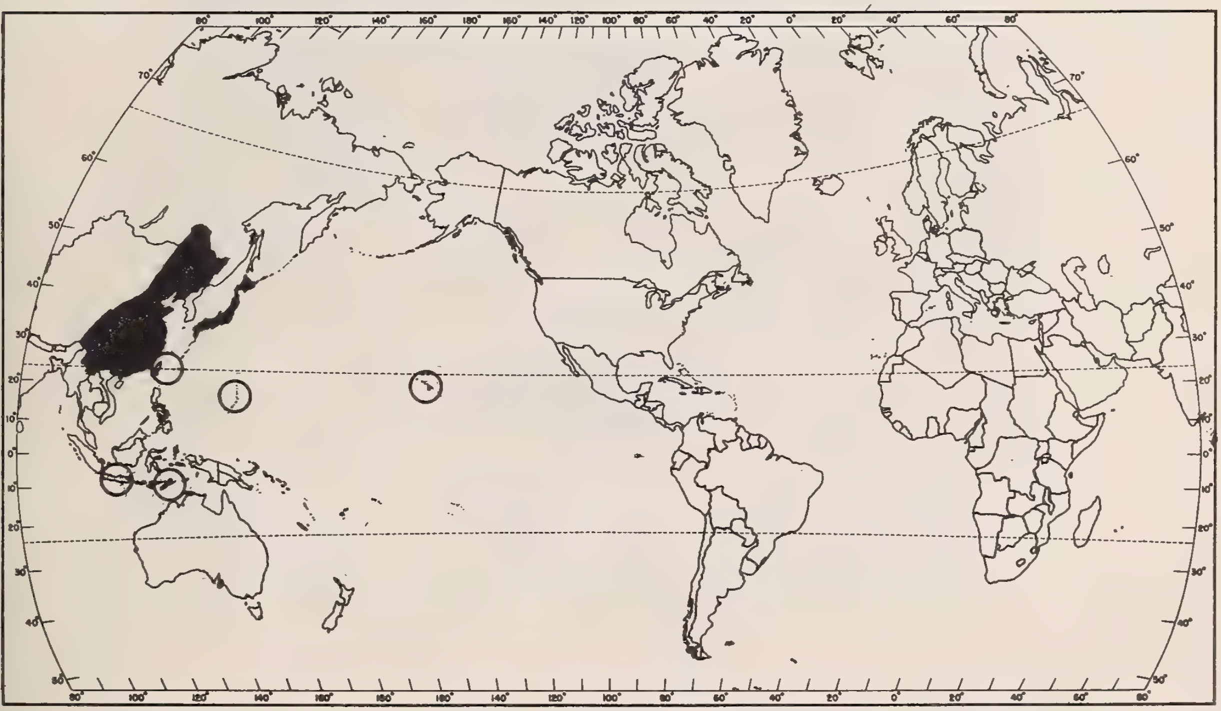
USDA Photograph

CHINESE ROSE BEETLE (Adoretus sinicus Burm.)

Economic Importance: This scarab is a serious defoliator of many economic plants. When adults are abundant, they completely skeletonize the foliage of host plants. The larvae feed underground, mostly on dead organic matter. This beetle is rated as a notorious pest in Hawaii where it has been known for over 60 years. Although the species has a number of parasites and predators in the Islands, it continues to thrive and cause damage. No very satisfactory control methods have been developed in this area. Severe damage from Chinese rose beetle has also occurred on Guam.

Distribution: Hawaii, Japan, Formosa, China, Timor, Java, and Marianna Islands.

Hosts: Attacks many plants including rose, grape, okra, beans, soybeans, sweetpotato, asparagus, cotton.



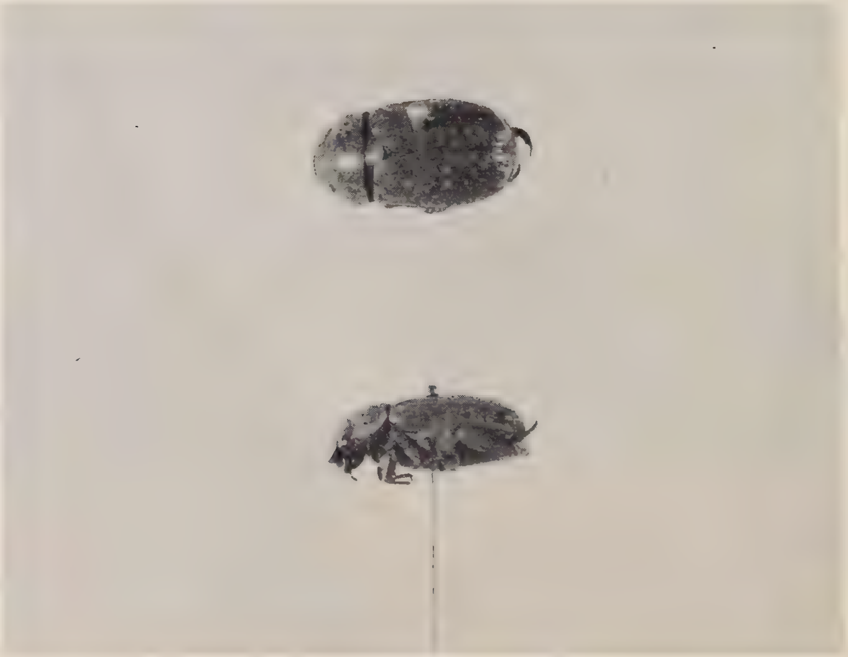
General Distribution of Chinese Rose Beetle

(Scarabaeidae, Coleoptera)

No. 89 of Series

Life History and Habits: Adults fly at dusk and feed on foliage. They may be found in the daytime hiding in loose soil or debris. Attacked leaves show numerous small holes or complete skeletonization. Eggs are laid in the soil and hatch in about four days. Larvae feed underground on decaying plant material, rarely attack live roots. Pupation occurs in earthen cells. Life cycle requires about six or seven weeks.

Description: ADULT - Fuscous, with copper luster, densely punctuate, flatly pubescent. Luster hardly noticeable due to recumbent hairs. Antennae and legs, chestnut brown. Length about 9.3 mm. The pygidium or anal end is set with long bristles. The border of the pygidium and the abdominal ring are set with a row of stiff bristles. The fore tarsi have 3 sharp teeth. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies. Special material for this summary supplied by O. C. Chock, Div. Ent. and Mkts., Board of Comm. of Agr. and For., Honolulu, Hawaii). CEIR 9(30):7-24-59.



Adults of Chinese Rose Beetle

USDA Photograph

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